REMARKS

Claims 1 and 4-19 are all the claims pending in the application.

Applicants respectfully request allowance of the claims or a substantive rebuttal of each point of traversal present on page 7 to page 11.

I. Summary of Office Action

Claims 1, 5-10, 12-14, 16, 18, and 19 are rejected under 35 U.S.C. § 102(e) as being anticipated by Doshi (U.S. Patent No. 6,205,117).

Claims 4, 11, and 15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Doshi in view of Chang-Hasnain (U.S. Patent No. 5,541,756).

Claim 17 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Doshi in view of Hauser (U.S. Patent No. 7,263,100).

II. Claim Rejections - 35 U.S.C. § 102

Claims 1, 5-10, 12-14, 16, 18, and 19 are rejected under 35 U.S.C. § 102(e) as being anticipated by Doshi.

Claim 1 recites among other elements: "collecting values of parameters characterizing the spectral route segments, which values of the parameters include values of optical transparency parameters."

Doshi describes sending a capacity request for a restoration path. Each intermediate node reserves capacity and adds its link status to the message. (Col. 17, lines 42-53). Link status is indicative of the capacity and contention resolution status. (Col. 17, lines 12-23).

If the destination node receives multiple capacity requests, indicating multiple candidate restoration paths, destination node selects the candidate path having the least number of bottleneck links. (Col. 18, lines 21-43).

In the February 23 Amendment, Applicants submitted that Doshi only describes the parameters related to the available capacity and the ability to participate in the contention

resolution, but does not teach or suggest collecting values of the optical transparency parameters in the message.

In response, the Examiner states that Doshi recites the same wavelength to be used for the primary and restoration paths. The Examiner concludes that it follows that because the nodes make the capacity check, the certain wavelength is a parameter that is involved along with the collected capacity information in the message. (*See* Final Office Action, page 10, paragraph 3).

Initially, it is unclear how the same wavelength relates to optical transparency parameters. Further, "the certain wavelength" is not the same as or an equivalent of "the optical transparency parameters." The former obviously relates to the wavelength, while the latter relates to the optical transparency.

Accordingly, the Examiner did not provide a proper rebuttal of Applicants arguments submitted in the February 23 Amendment as **required by MPEP § 707.07(f).** Additionally, the Examiner did not take the feature of collecting values of the optical transparency parameters in the message into account, when examining the claims.

As known in the art, the aim of optical transparency is to avoid non-transparent points such as opto-electrical interfaces. However, Doshi describes fiber connections connected to the buffers via the opto-electrical or electro-optical interfaces. (Fig. 7, col. 10, lines 4-13). Therefore, the spectral route of Doshi necessarily lies through the non-transparent points.

Further, claim 1 discusses the spectral route and the spatial route. In Doshi, the primary and restoration routes are spectral. Doshi does not teach or suggest selecting a spatial route which supports the spectral route. Additionally, the message in Doshi is sent via the spectral route. However, as claimed, the message is sent via the spatial route.

In conclusion, to anticipate under § 102, each and every element of each claim must be found in a single prior art reference. Additionally, the elements found in the single prior art reference must be arranged as they are arranged in a respective claim. However, to support the rejection, the Examiner assumes that some aspects are disclosed by Doshi, when, in fact, Doshi is entirely lacking them. Thus, the anticipation rejection is improper because it is based on speculation and not substantiated by the cited prior art. The Examiner is respectfully requested

withdraw the rejection or provide a substantive rebuttal of each point discussed above together with citations to Doshi by a column and line number.

Accordingly, Doshi does not teach or suggest at least "sending a route set-up request message ... via the candidate spatial route; collecting values of parameters ..., which ... include values of optical transparency parameters, in the message; ...using an optimization method ... to select the spectral route and the spatial route." Thus, **claim 1 and dependent claims 5-10, 12-14, 16, 18, and 19** distinguish patentably over Doshi.

In addition, **claim 9** recites "determining sets of wavelengths available along the spatial route segments, from the starting node to the destination node, wherein the values of the collected parameters include identifications of the determined sets of available wavelengths."

In the Office Action, the Examiner never referred to the traversal submitted in the February 23 Amendment, on pages 8 and 9. Accordingly, Applicants resubmit the traversal below and respectfully request the Examiner provide a substantive rebuttal or allow claim 9.

The Examiner generally cites to col. 17, lines 49-53 and Figs. 4 and 5 of Doshi to support the rejection. (*See* Final Office Action, page 6, lines 5-6).

In the cited portions, **Doshi** discusses using the same wavelength (Fig. 4) or different wavelengths between the nodes (Fig. 5). (col. 2, lines 64-66, col. 3, lines 25-30). This discussion appear to discuss general information about the networks of which some networks may utilize a single wavelength and others may utilize different wavelengths.

In col. 17, lines 49-53, **Doshi** describes that the request lists the nodes on the proposed end-to-end path. In the forward direction from the source node to the destination node, each intermediate node reserves capacity and adds its link status to the message forwarded to the next node. (Col. 17, lines 49-53).

However, in the cited portions, Doshi does not teach or suggest "determining **sets** of wavelengths available along the spatial route segments" and/or "the values of the collected parameters include identifications of the determined **sets** of available wavelengths" in the message, as claimed.

Reserving the capacity is not the same as or an equivalent of "determining **sets** of wavelengths available along the spatial route segments." Likewise, recording the link status in the message is not the same as or an equivalent of collecting "the identifications of the determined sets of available wavelengths" of the segments in the message.

Accordingly, **claim 9** is patentable over Doshi.

Claims 12 and 13 recite features similar to claim 9 and, therefore, are patentable at least for similar reasons.

Claim 10 recites: "selecting the spectral route as a transparent route which uses the same wavelength from the starting node to the destination node and lacks optical to electrical to optical conversion."

As discussed above, Doshi describes fiber connections connected to the buffers via the opto-electrical or electro-optical interfaces. (Fig. 7, col. 10, lines 4-13). Therefore, the spectral route of Doshi lies through the non-transparent points. Doshi does not teach or suggest selecting the spectral route which lacks optical to electrical to optical conversion.

Accordingly, **claim 10** is patentable over Doshi.

Claims 11, 14, and 18 recite features similar to claim 10 and, therefore, are patentable at least for similar reasons.

Claim 16 recites: "minimizing a cost function based on the processed values of the optical transparency parameters; and determining a shortest spectral route including an optically transparent path from the source node to the destination node."

The Examiner states that Doshi determines a shortest path using the capacity information. (*See* final Office Action, page 7, paragraph 2).

To the contrary, claim 16 recites determining a shortest optically transparent path, based on the values of the optical transparency parameters. Doshi does not teach or suggest determining a shortest optically transparent path, based on the values of the optical transparency parameters. Further, Doshi does not teach or suggest minimizing a cost function, as claimed.

Accordingly, **claim 16** is patentable over Doshi.

Claim 19 recites features similar to those recited in claim 16 and, therefore, is patentable at least for similar reasons.

III. Claim Rejections - 35 U.S.C. § 103

Claims 4, 11, and 15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Doshi in view of Chang.

In the Office Action, the Examiner never referred to the traversal submitted in the February 23 Amendment, on pages 9 and 10. Accordingly, Applicants resubmit the traversal below and respectfully request the Examiner provide a substantive rebuttal or allow **claims 4, 11, and 15**.

Claim 4 recites "the parameters characterizing all of the spectral route segments along each candidate spatial route take account of transparency constraints."

Chang describes a switch for routing optical data without subjecting it to opto-electronic conversion. The optical signals are manipulated and the switch's settings are changed accordingly to appropriately route the signals through the switch to avoid the opto-electric conversion. (Abstract, col. 2, lines 30-33, col. 5, line 4+).

Therefore, Chang describes avoiding the opto-electric conversion of the signals at the switch. Avoiding the opto-electric conversion of the signals at the switch is not the same as or an equivalent of collecting the parameters along each candidate spatial route which take account of the transparency constraints, as claimed.

Accordingly, a proposed combination of Doshi and Chang lacks an aspect of "the parameters characterizing all of the spectral route segments along each candidate spatial route take account of transparency constraints," which are collected in the message.

Therefore, **claim 4** is patentable over Doshi and Chang, taken singularly or in combination.

Claims 11 and 15 recite features similar to claim 4. Therefore, **claims 11 and 15** are patentable for similar reasons.

B. **Claim 17** is rejected under 35 U.S.C. § 103(a) as being unpatentable over Doshi in view of Hauser.

Claim 17 depends on claim 1. Doshi does not meet all of the features of claim 1. Hauser does not compensate for any deficiency of Doshi. Accordingly, **claim 17** is patentable at least by virtue of its dependency.

CONCLUSION

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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